FIG.1

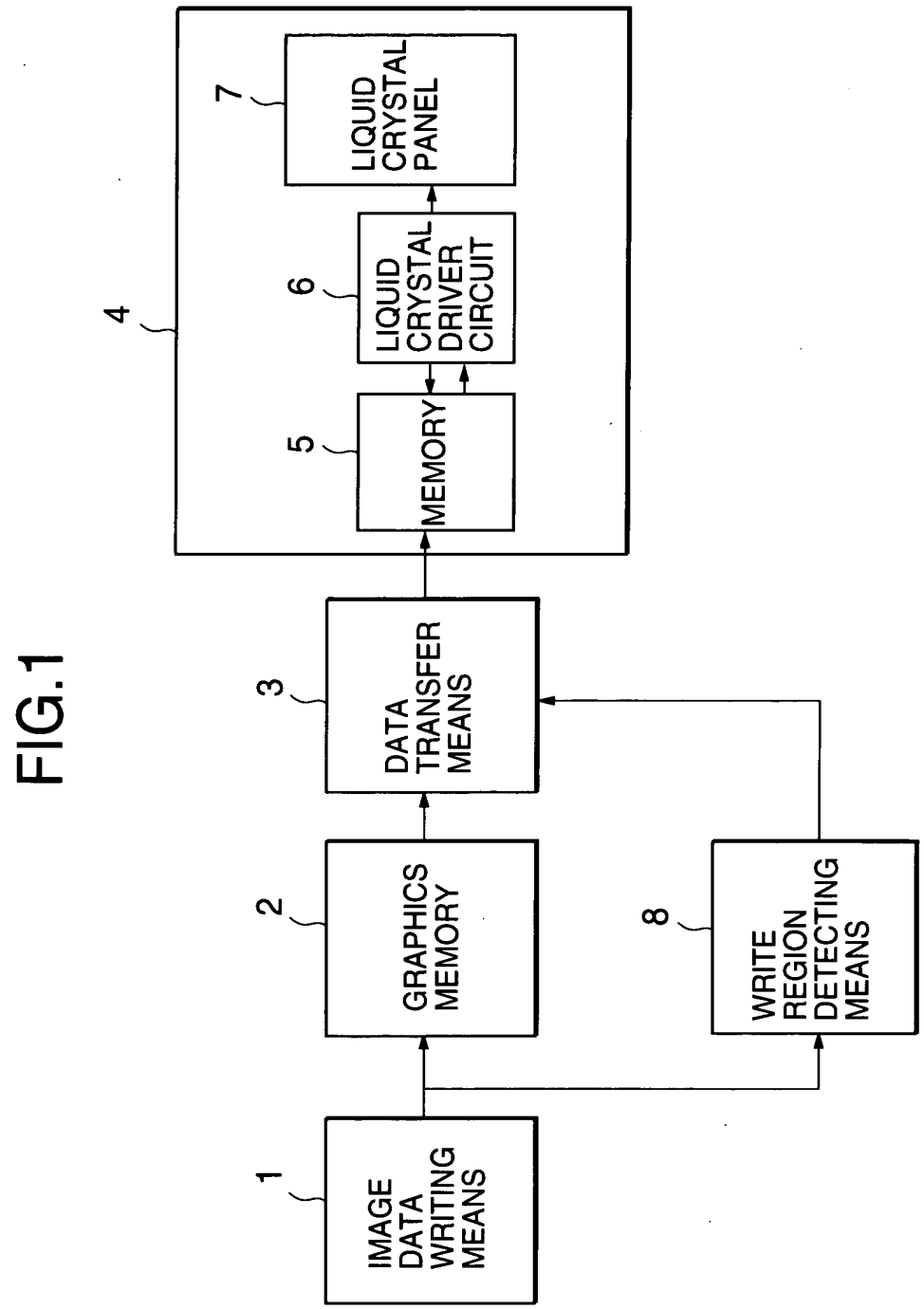

1
IMAGE DATA WRITING MEANS
2
GRAPHICS MEMORY
3
DATA TRANSFER MEANS
4
5
MEMORY
6
LIQUID CRYSTAL DRIVER CIRCUIT
7
LIQUID CRYSTAL PANEL
8
WRITE REGION DETECTING MEANS

FIG.2

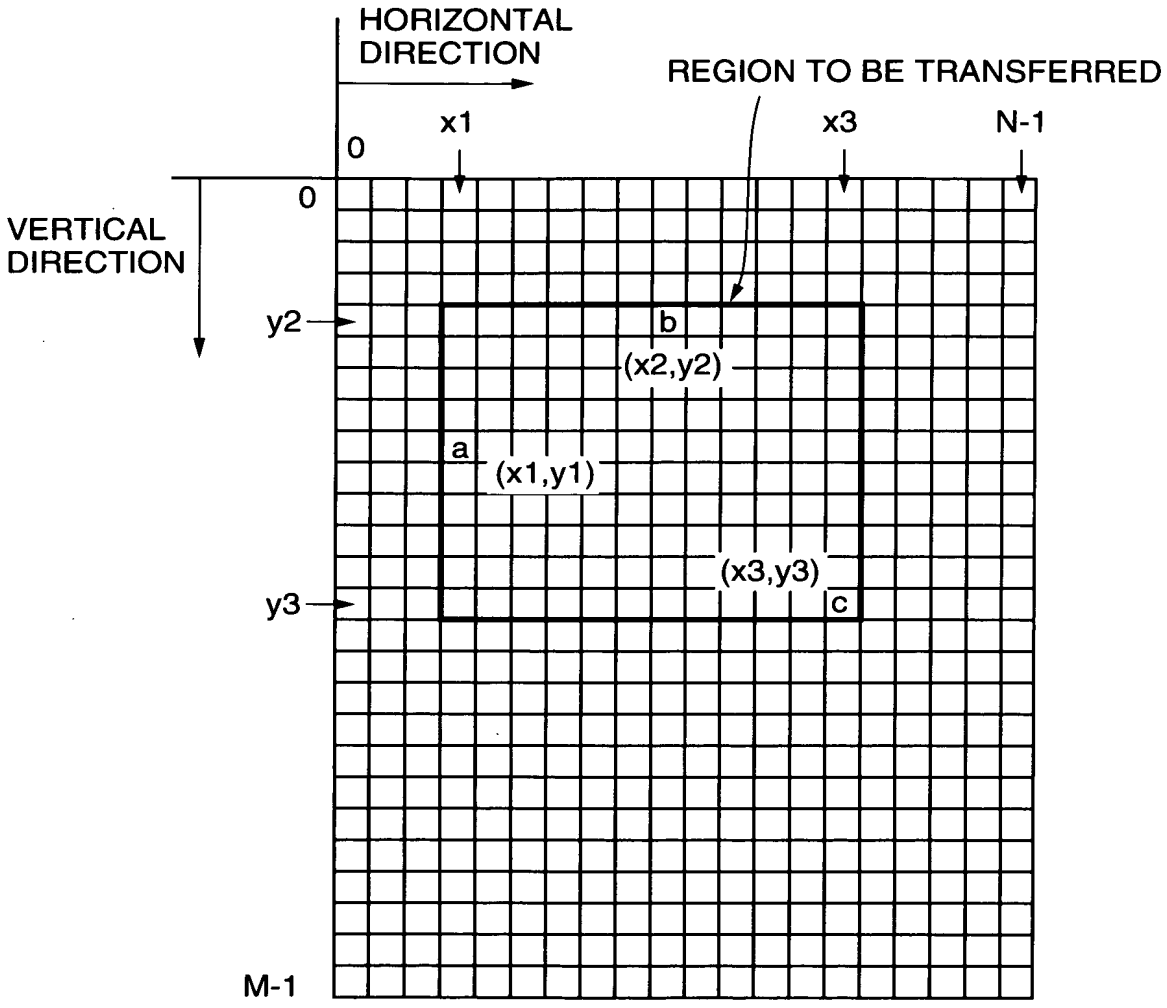

HORIZONTAL DIRECTION
REGION TO BE TRANSFERRED
x1
x3
N-1
0
0
VERTICAL DIRECTION
y2
b
(x2,y2)
a
(x1,y1)
(x3,y3)
c
y3
M-1

FIG.3

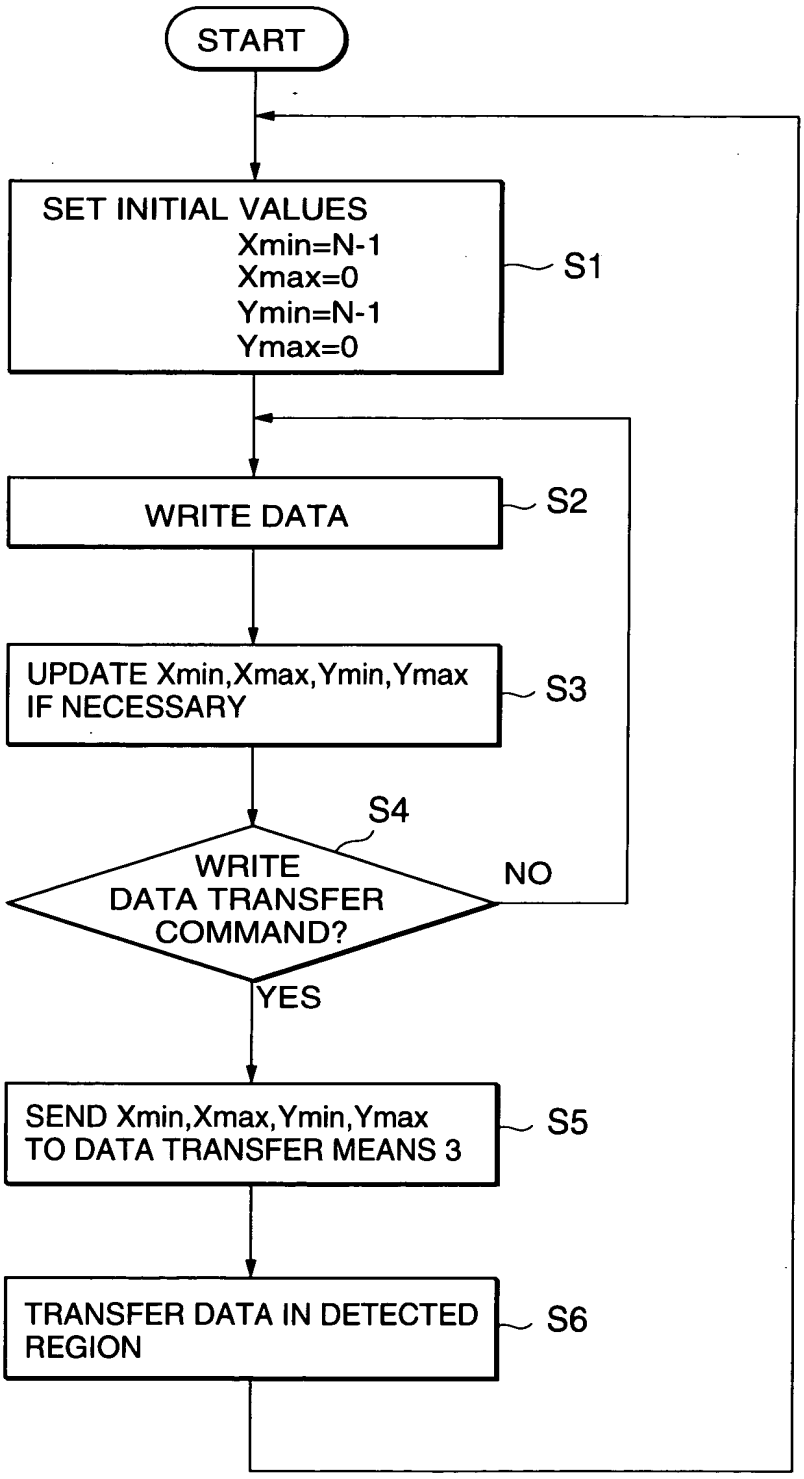

START
SET INITIAL VALUES
Xmin=N-1
Xmax=0
Ymin=N-1
Ymax=0
S1
WRITE DATA
S2
UPDATE Xmin,Xmax,Ymin,Ymax
IF NECESSARY
S3
S4
WRITE
DATA TRANSFER
COMMAND?
NO
YES
SEND Xmin,Xmax,Ymin,Ymax
TO DATA TRANSFER MEANS 3
S5
TRANSFER DATA IN DETECTED
REGION
S6

FIG.4

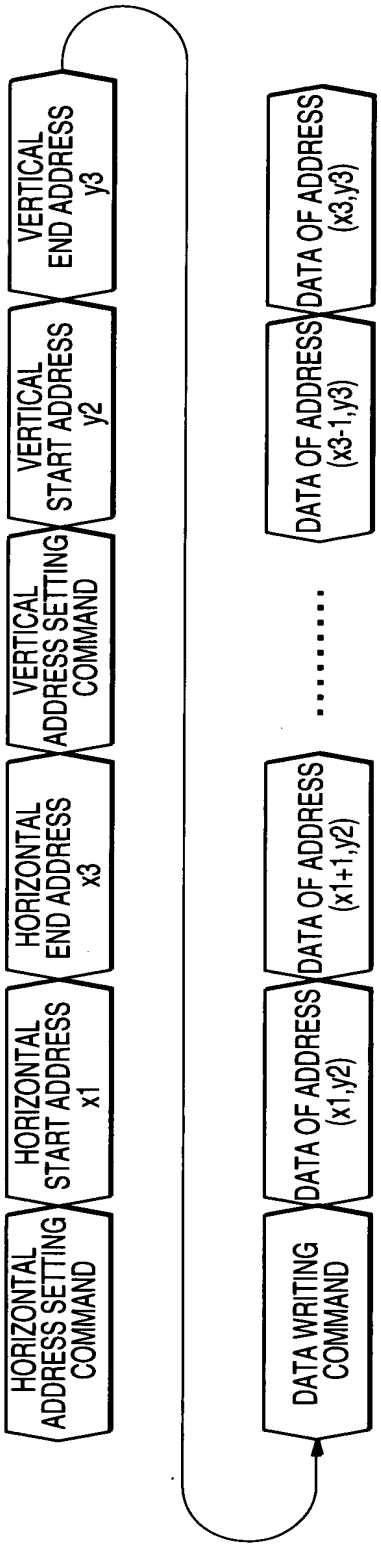

HORIZONTAL ADDRESS SETTING COMMAND
HORIZONTAL START ADDRESS x1
HORIZONTAL END ADDRESS x3
VERTICAL ADDRESS SETTING COMMAND
VERTICAL START ADDRESS y2
VERTICAL END ADDRESS y3
DATA WRITING COMMAND
DATA OF ADDRESS (x1,y2)
DATA OF ADDRESS (x1+1,y2)
.....
DATA OF ADDRESS (x3-1,y3)
DATA OF ADDRESS (x3,y3)

FIG.5

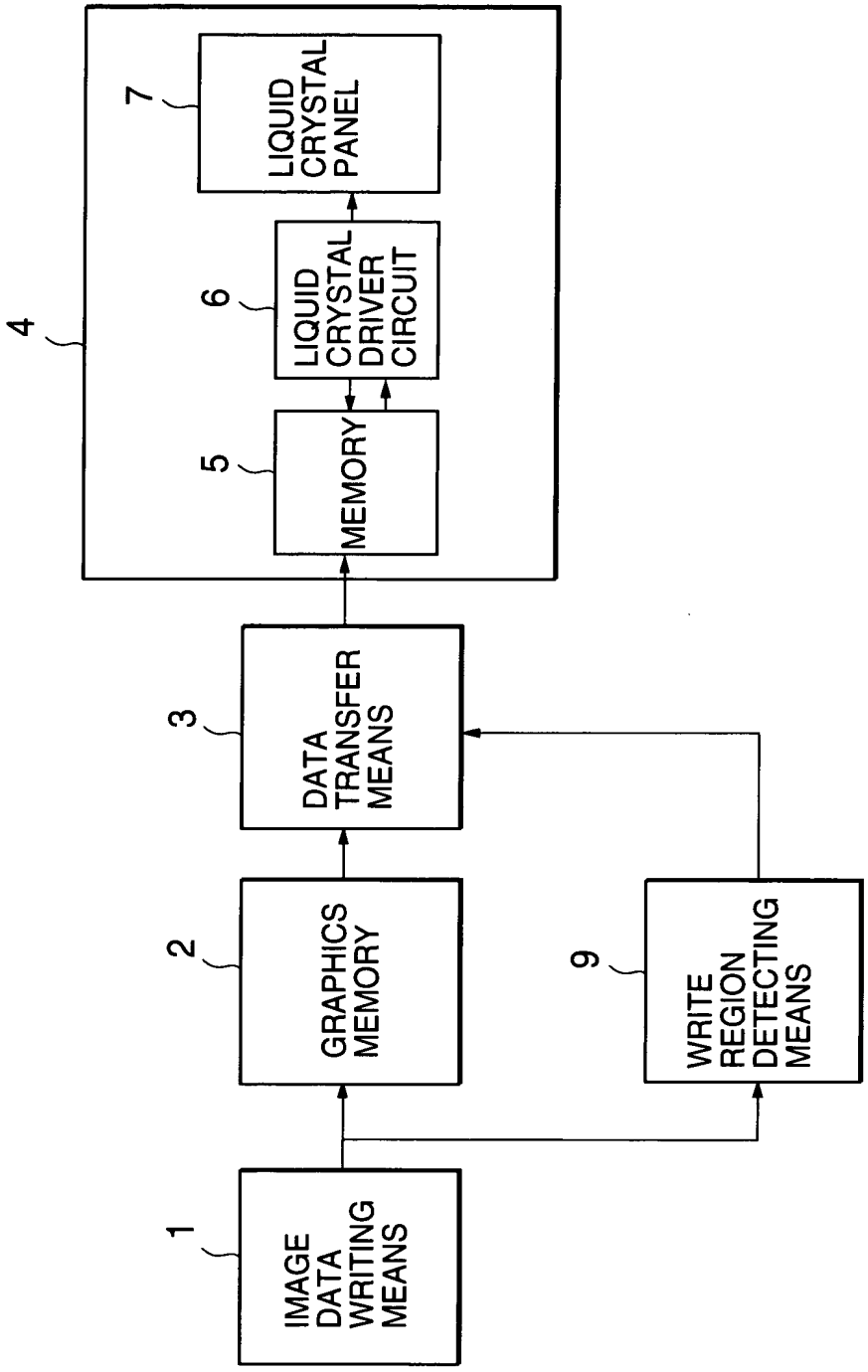

1
IMAGE DATA WRITING MEANS
2
GRAPHICS MEMORY
3
DATA TRANSFER MEANS
4
5
MEMORY
6
LIQUID CRYSTAL DRIVER CIRCUIT
7
LIQUID CRYSTAL PANEL
9
WRITE REGION DETECTING MEANS

FIG.6

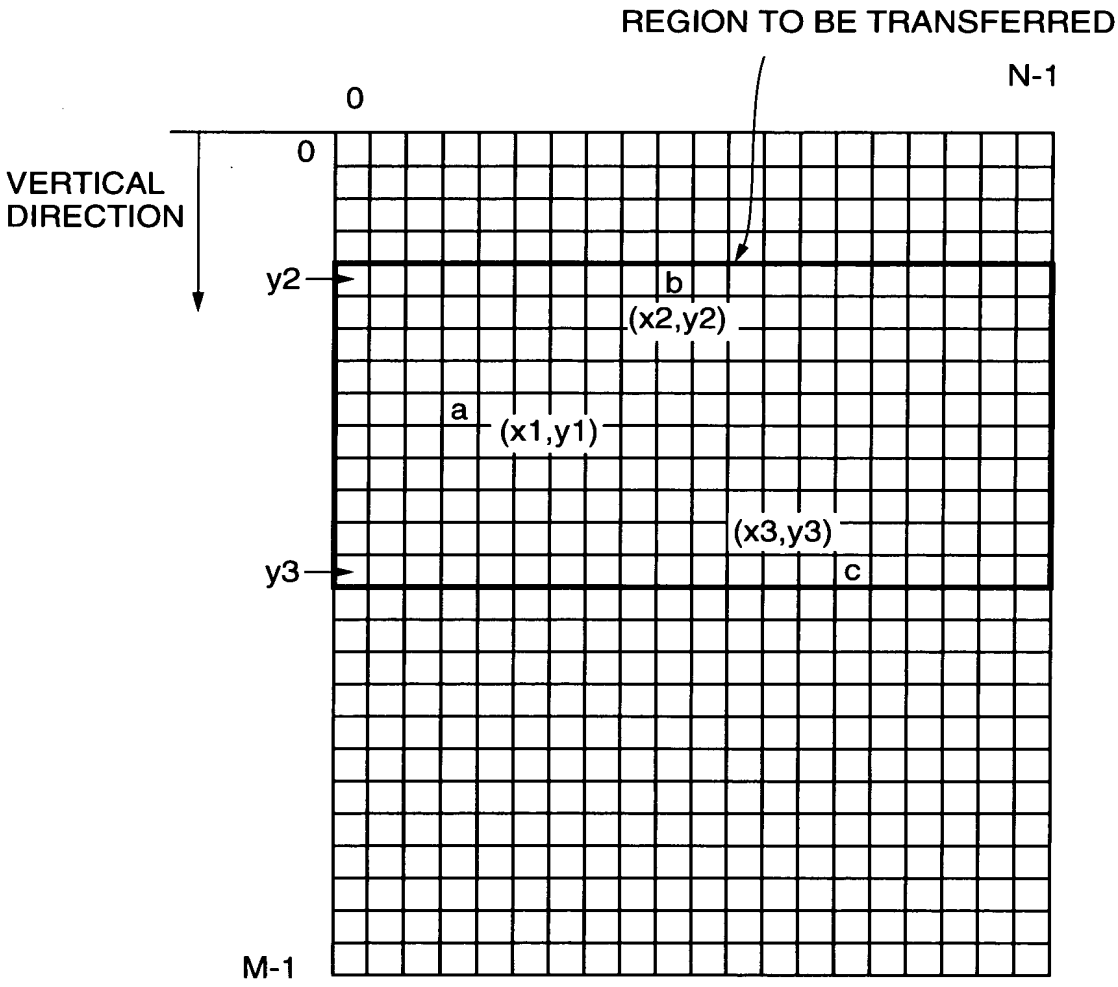

REGION TO BE TRANSFERRED
N-1
0
0
VERTICAL DIRECTION
y2
b
(x2,y2)
a
(x1,y1)
(x3,y3)
y3
c
M-1

FIG.7

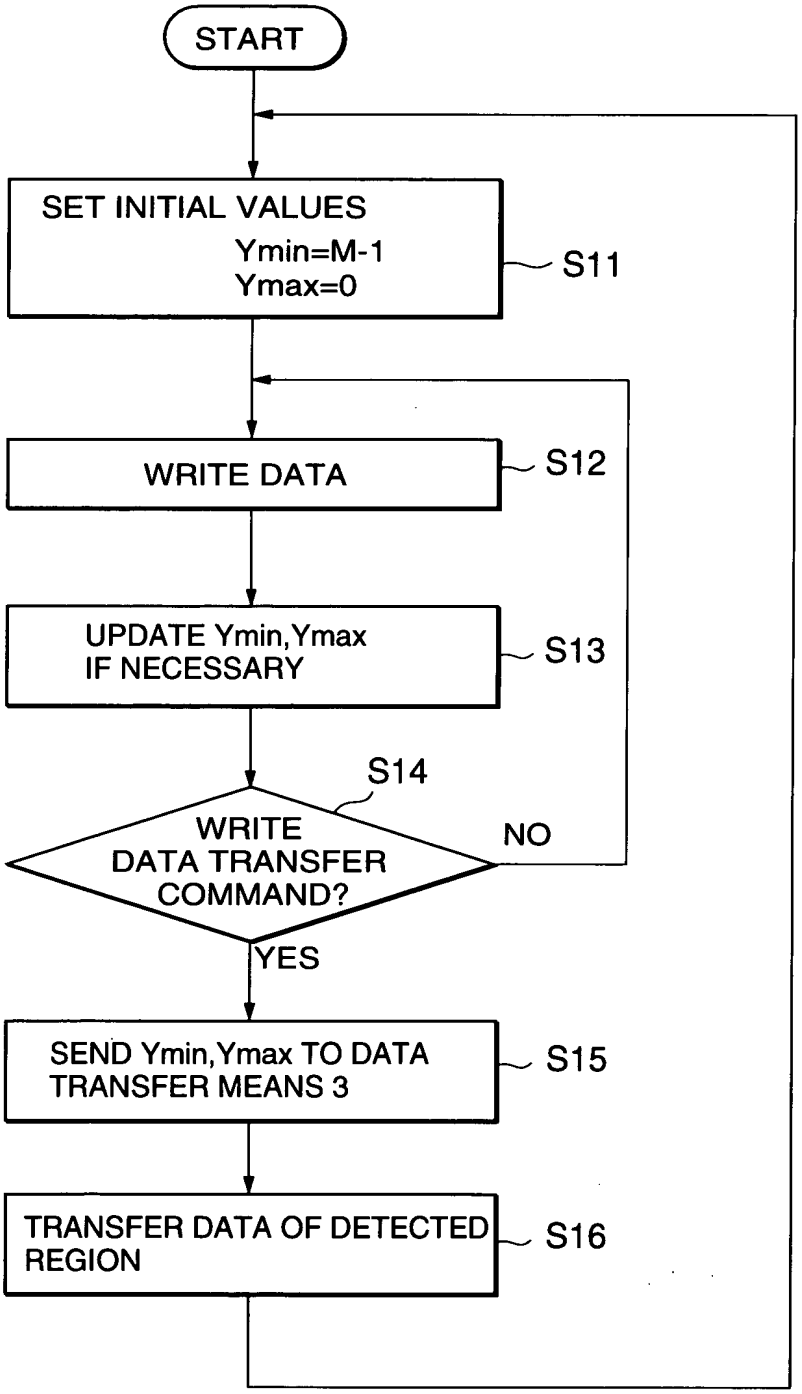

START
SET INITIAL VALUES
Ymin=M-1
Ymax=0
S11
WRITE DATA
S12
UPDATE Ymin,Ymax
IF NECESSARY
S13
S14
WRITE
DATA TRANSFER
COMMAND?
NO
YES
SEND Ymin,Ymax TO DATA
TRANSFER MEANS 3
S15
TRANSFER DATA OF DETECTED
REGION
S16

FIG.8

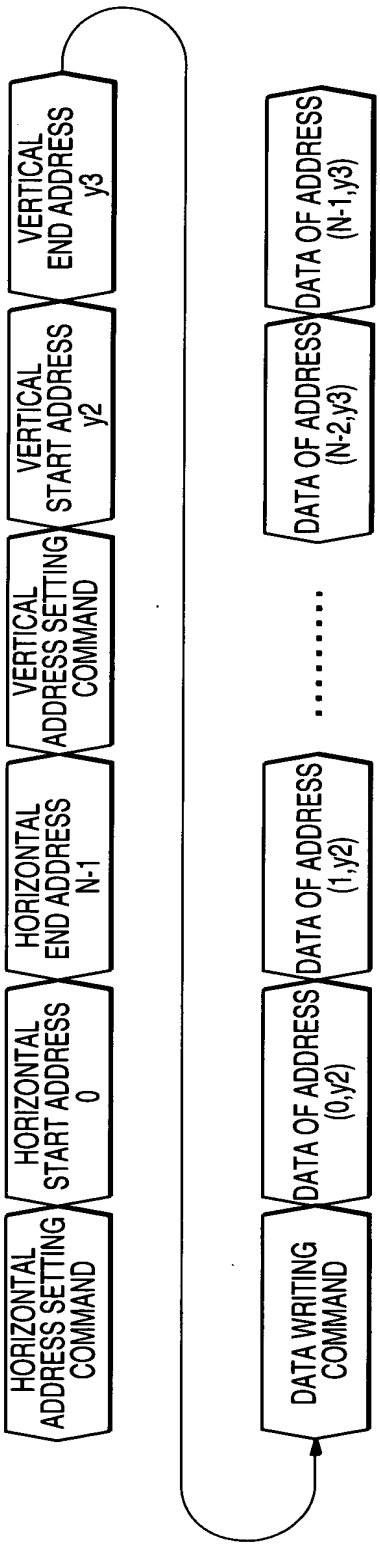

HORIZONTAL ADDRESS SETTING COMMAND
HORIZONTAL START ADDRESS 0
HORIZONTAL END ADDRESS N-1
VERTICAL ADDRESS SETTING COMMAND
VERTICAL START ADDRESS y2
VERTICAL END ADDRESS y3
DATA WRITING COMMAND
DATA OF ADDRESS (0,y2)
DATA OF ADDRESS (1,y2)
.....
DATA OF ADDRESS (N-2,y3)
DATA OF ADDRESS (N-1,y3)

FIG.9

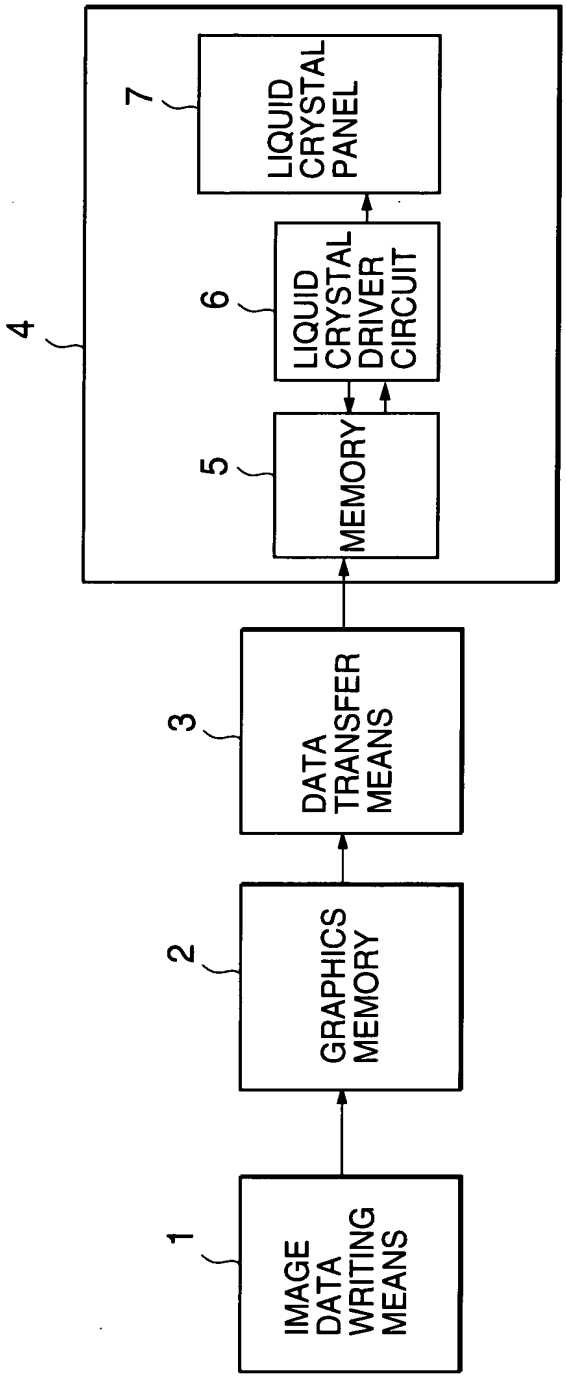

1
IMAGE DATA WRITING MEANS
2
GRAPHICS MEMORY
3
DATA TRANSFER MEANS
4
5
MEMORY
6
LIQUID CRYSTAL DRIVER CIRCUIT
7
LIQUID CRYSTAL PANEL

FIG.10

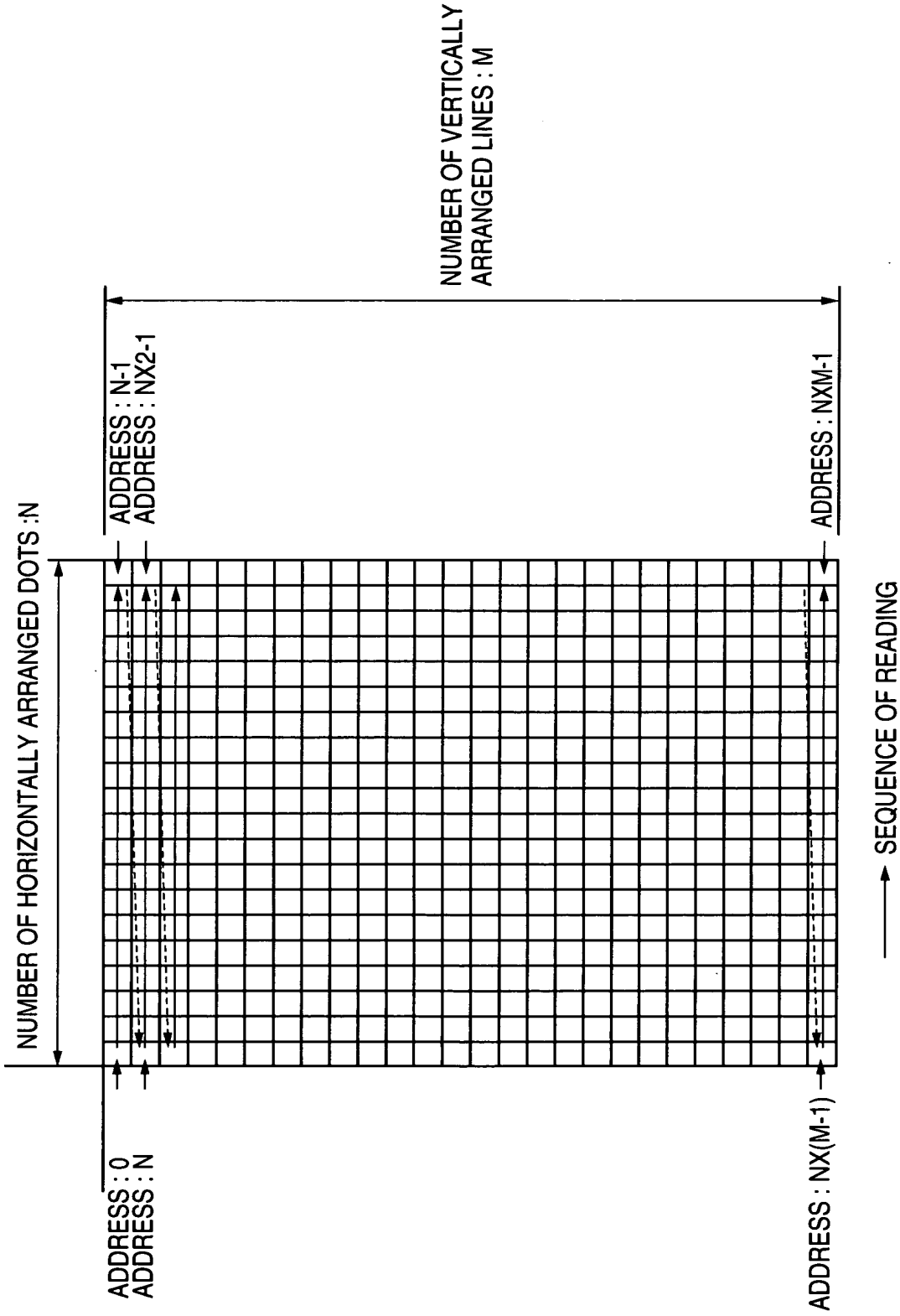
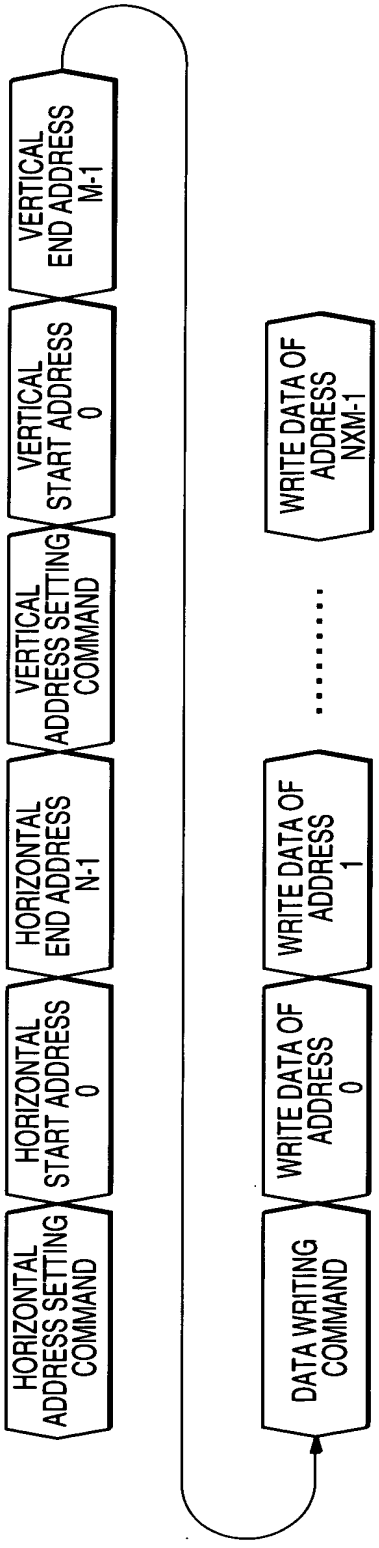

NUMBER OF VERTICALLY ARRANGED LINES : M
NUMBER OF HORIZONTALLY ARRANGED DOTS :N
ADDRESS : 0
ADDRESS : N
ADDRESS : N-1
ADDRESS : NX2-1
ADDRESS : NX(M-1)
ADDRESS : NXM-1
SEQUENCE OF READING

FIG.11


HORIZONTAL ADDRESS SETTING COMMAND
HORIZONTAL START ADDRESS 0
HORIZONTAL END ADDRESS N-1
VERTICAL ADDRESS SETTING COMMAND
VERTICAL START ADDRESS 0
VERTICAL END ADDRESS M-1
DATA WRITING COMMAND
WRITE DATA OF ADDRESS 0
WRITE DATA OF ADDRESS 1
.....
WRITE DATA OF ADDRESS NXM-1